

EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 2002305087
PUBLICATION DATE : 18-10-02

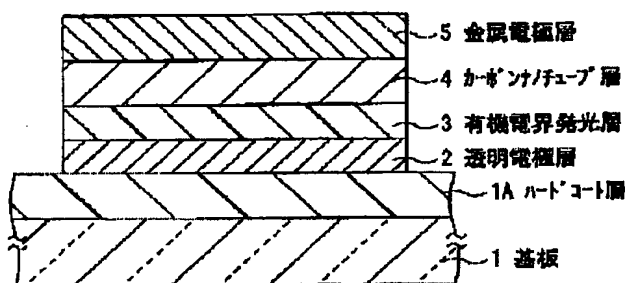
APPLICATION DATE : 05-04-01
APPLICATION NUMBER : 2001107660

APPLICANT : SONY CORP;

INVENTOR : OKITA HIROYUKI;

INT.CL. : H05B 33/26 H05B 33/02 H05B 33/14
H05B 33/22

TITLE : ORGANIC ELECTROLUMINESCENT
ELEMENT



ABSTRACT : PROBLEM TO BE SOLVED: To provide an organic electroluminescent element high in efficiency and long in life.

SOLUTION: The organic electroluminescent element is constructed by laminating a hard coating layer 1A, a transparent electrode layer 2, an organic electroluminescent layer 3, a carbon nano-tube layer 4 and a metal electrode layer 5 in that order on a substrate 1. The carbon nano-tube layer 4 is composed of a nano-tube having metallic conductivity or such a carbon nano-tube that $n=m$, or $n-m$ is a multiple of 3 (n and m are chiral exponents), and is oriented in such a manner that an axis of the tube is perpendicular to a layer surface. When voltage is applied to such an element, a strong electric field is generated at the layer surface (the tip of the tube) even under low voltage, whereby many electrons are taken out of the carbon nano-tube to achieve light emission of high luminance.

COPYRIGHT: (C)2002,JPO

BEST AVAILABLE COPY